

JANUARY/JANVIER

ARTICLES

- Hideo Kojima, Noboru Matsumura, and Hiroo Inoue** Preparation of nitrogen heterocycles from aromatic amines using tris(isopropylthio)cyclopropenyl cation as a three-carbon building block 1
- M. Martinez-Lara, L. Moreno-Real, R. Pozas-Tormo, A. Jimenez-Lopez, S. Bruque, P. Ruiz, and G. Poncelet** Catalytic activity of vanadyl phosphate supported on TiO₂ (anatase) and SiO₂ (silica) 5
- Abdesselam Abouelfida, Jean Paul Pradère, Michel Jubault et André Tallec** Réduction électrochimique de 4*H*-1,3-thiazines : obtention de 6*H*-1,3-thiazines et (ou) de pyrroles substitués 14
- Ernő Keszei and Jean-Paul Jay-Gerin** On the role of the parent cation in the dynamics of formation of laser-induced hydrated electrons 21
- Raphaël Sabbah et Lahcen El Watik** Étude thermodynamique de l'acridone et de la thioxanthone 24
- Peter D. Clark, Russell S. Mann, and Kevin L. Lesage** Reactions of dimethyl polysulfides with organomagnesium reagents 29
- Ramesh K. Wadi and Vivek Saxena** Molecular dynamics simulation of interhalogen compounds. 1. Liquid chlorine trifluoride (ClF₃): structure and thermodynamics 34
- Donal H. Macartney and Samuel Mak** Kinetics of electron-transfer reactions of the Co(bpyO₂)₃^{2+/3+} couple in acetonitrile 39
- Sudhindra N. Misra and Shaun O. Sommerer** The ligand mediated pseudohypersensitivity of the ³H₄ → ³P₂, ³H₄ → ³P₁, ³H₄ → ³P₀, and ³H₄ → ¹D₂ transitions of praseodymium(III) complexes in solution media 46
- Yuming Xu, Lili Li, and Loren G. Hepler** Partial molar volumes of acidic gases in physical solvents and prediction of solubilities at high pressures 55
- Boualem Oussaid, Mohamed Ayad, Bernard Garrigues, Jean-Pierre Fayet et Le Trang Tran** Étude de la conformation d'imines thiophéniques 58
- Robert S. McDonald, Patricia Patterson, June Rodwell, and Ann Whalley** Intramolecular nucleophilic participation by the thiol group during amide hydrolysis. Part 2. The imidazole catalysis dilemma 62
- Claude Mijoule, Jean-Marie Leclercq, Michel Comeau, Sándor Fliszár, and Maud Picard** Charge distributions and chemical effects. XLVII. Density matrix contribution to the charge distribution in hydrocarbons, arising from singly excited configurations in CI calculations 68
- M. A. Aramendia, V. Borau, C. Jimenez, J. M. Marinas, M. E. Sempere, and F. J. Urbano** A comparative study of the liquid-phase reduction of acrylamide and methacrylamide with cyclohexene and with molecular hydrogen over sepiolite-supported catalysts 74
- Hideo Doine, Todd W. Whitcombe, and Thomas W. Swaddle** Pressure dependences of the electrode potentials of some iron(III/II) and cobalt(III/II) couples in aqueous solution 81
- Denise Matte, Bernard Solastiouk, André Merlin et Xavier Deglise** Étude cinétique de la *N*-chloration de la succinimide en phase aqueuse 89
- Enric Bosch, Miquel Moreno, and José María Lluch** The role of coupling in intramolecular proton transfer reactions. The hydrogen oxalate anion as an example 100
- H. Q. Liu and J. F. Harrod** Copper(I)-catalyzed cross-dehydrocoupling reactions of silanes and amines 107
- Jack Leon Ginsburg, Richard Francis Langler, Raj Kumar Raheja, and Laura Precedo** A MNDO study of planar thioacyl-substituted carbocations 111
- Peter Smith, Kirk Randall Maples, and Ramona Lillian Lau** Electron paramagnetic resonance study of the reactions of the spin trap 2,4,6-tribromonitrosobenzene in benzene solutions 116
- Paul H. Milne, Danial D. M. Wayner, Dayal P. DeCosta, and James A. Pincock** Substituent and charge distribution effects on the redox potentials of radicals. Thermodynamics for homolytic versus heterolytic cleavage in the 1-naphthylmethyl system 121
- Hsing-Jang Liu and Weide Luo** Synthetic applications of glycidic thioesters. Regioselective reduction to 1,3-diols and 2,3-epoxy alcohols 128
- B. Zhao and M. H. Back** Kinetics of the photochemical reactions of the croconate dianion in aqueous solution 135
- M. P. Merrin, D. L. Hooper, R. J. Lafrance, R. Snooks, and K. Vaughan** Open-chain nitrogen compounds. Part XIV. Synthesis of 1-aryl-3-aryloxymethyl-3-methyltriazenes and 1-aryl-3-(hydroxyaryl)methyl-3-methyltriazenes 144
- Julian M. Dust** Charge transfer and electron transfer processes in biologically significant systems. 1. Charge transfer complex formation between 1,3,5-trinitrobenzene and *N,N*-dimethyl-3,4-di-*O*-methyldopamine, a dopamine analogue 151
- Youla S. Tsantrizos, Patricia L. Folkins, James F. Britten, David N. Harpp, and Kelvin K. Ogilvie** Approaches towards the synthesis of a sulfur analog of ergosterol peroxide 158

Wesley G. Taylor, Tse Wai Hall, and Carl E. Schreck An investigation of the rotational isomers of <i>N</i> -acetyl-2,2-dimethylloxazolidine and related compounds by nuclear magnetic resonance spectroscopy and molecular mechanics	165
Jian Jeffrey Chen and Dennis D. Tanner The reduction of α -bromocamphor by tertiary amines	173
Izaak M. Kolthoff and Miran K. Chantooni, Jr. Binding of water in aqua 18-crown-6 dichloropicric acid complexes in the solid state and its reversible thermal removal	177
R. A. Bell, R. Faggiani, H. N. Hunter, and C. J. L. Lock Synthesis, C-13 NMR, and X-ray crystal structure of N6,N9-octamethylenepurinecyclophane	186
T. Bruce Grindley, Rasiah Thangarasa, Pradip K. Bakshi, and T. Stanley Cameron The structure of 2,2-dibutyl-1,3,2-dioxastannane in the solid state and in solution	197
T. Bruce Grindley, Roderick E. Wasylishen, Rasiah Thangarasa, William P. Power, and Ronald D. Curtis Tin-119 NMR of 1,3,2-dioxastannolanes and a 1,3,2-dioxastannane in the solid state	205
Linda M. Beynon, James C. Richards, Malcolm B. Perry, and Peter J. Kniskern Antigenic and structural relationships within group 19 <i>Streptococcus pneumoniae</i> : chemical characterization of the specific capsular polysaccharides of types 19B and 19C	218
Eva Petrakova, Ulrike Spohr, and Raymond U. Lemieux Molecular recognition IX. The synthesis of the H-type 2 human blood group determinant and congeners modified at the 6-position of the <i>N</i> -acetylglucosamine unit	233
P. V. Nikrad, H. Beierbeck, and R. U. Lemieux Molecular recognition X. A novel procedure for the detection of the intermolecular hydrogen bonds present in a protein-oligosaccharide complex	241
Ulrike Spohr, Eugenia Paszkiewicz-Hnatiw, Naohiko Morishima, and Raymond U. Lemieux Molecular recognition XI. The synthesis of extensively deoxygenated derivatives of the H-type 2 human blood group determinant and their binding by an anti-H-type 2 monoclonal antibody and the lectin 1 of <i>Ulex europaeus</i>	254
Allyson L. Perrott and Donald R. Arnold The importance of conformation in the reactivity of radical cations. Changing configuration at saturated carbon centres	272
COMMUNICATIONS	
L. J. Johnston and D. F. Wong Characterization of the triplet excited state of the phenylxanthenium carbocation	280
Peter A. Cohen and Louis A. Cohen Correlation of the effects of alkyl substituents on the basicities of indoles	282
Notice to authors / Note aux auteurs	iii
Instructions to authors	vii
Recommandations aux auteurs	ix
Author index / Index des auteurs	AI-1

FEBRUARY/FÉVRIER

This issue is dedicated to Professor Sigeru Huzinaga
Ce tirage est dédié au Professeur Sigeru Huzinaga

ARTICLES

Shinichi Katsuki Molecular orbital calculation using spectral representation technique	285
S. Wilson On the accuracy of the algebraic approximation in electronic structure calculations for the ground states of H_3^{2+} and H_4^{3+} using basis sets of atom-centred Gaussian-type functions	290
Susumu Narita and Tai-ichi Shibuya New scheme for large-scale eigenvalue problems of the RPA-type matrix equation	296
Kazuo Hirai and Nobuhiro Kosugi Orbital reorganization and its energies in the interaction of CO with Sc, Fe, and Cu	301
Yoshiko Sakai, Eisaku Miyoshi, and Tosinobu Anno A configuration interaction study of the ground and first excited $^1\Sigma^+$ states of the NaI molecule	309
Fabio Ramondo <i>Ab initio</i> study on radical anions of nitro compounds	314
Takehisa Yoshinari, Norman Gee, and Gordon R. Freeman Electron thermalization distance distributions and thermal electron mobilities in dense liquid isobutane	327
E. Folga and T. Ziegler A theoretical study on the activation of hydrogen-hydrogen and hydrogen-alkyl bonds by electron-poor early transition metals	333
Paul G. Mezey On the allowed symmetries of all distorted forms of conformers, molecules, and transition structures	343
Leif J. Saethre and Odd Gropen Structure and bonding in square-planar chalcogen rings	348
Ramon Carbó and Emili Besalú AO integral evaluation using Cartesian exponential type orbitals (CETOs)	353
Toshikatsu Koga and Ajit J. Thakkar Improvement of the long-range behavior of Gaussian basis sets using asymptotic constraints	362

Hartmut Bueckert, Stuart M. Rothstein, and Jan Vrbik	Optimization of quantum Monte Carlo wavefunctions using analytical derivatives	366
Zhonghao Huang, Daniel A. Jelski, Rongshun Wang, Demin Xie, Chenda Zhao, Xinfu Xia, and Thomas F. George	Polarizabilities of <i>trans</i> and <i>cis</i> polyacetylene and interactions among chains in crystalline polyacetylene	372
Masataka Nagaoka, Yoshishige Okuno, Tokio Yamabe, and Kenichi Fukui	<i>Ab initio</i> calculations and the chemical reaction molecular dynamics simulation	377
Osamu Matsuoka	Molecular integrals over Laguerre Gaussian-type functions of real spherical harmonics	388
Katsuyuki Ogasawara, Yuji Mochizuki, Takeshi Noro, and Kiyoshi Tanaka	Electronic structure of lower singlet states of binuclear copper acetate monohydrate	393
Yasuyuki Ishikawa	Relativistic many-body perturbation theory using discrete basis expansion method: accurate representation of second-order energy of Xe atom with contracted well-tempered Gaussian basis set	399
Hiroshi Nakatsuji and Hiromi Nakai	Dipped adcluster model study for the end-on chemisorption of O ₂ on an Ag surface	404
Zoila Barandiarán and Luis Seijo	The <i>ab initio</i> model potential method. Cowan–Griffin relativistic core potentials and valence basis sets from Li (<i>Z</i> = 3) to La (<i>Z</i> = 57)	409
Tracy P. Hamilton and Henry F. Schaefer III	The use of special coordinate axes in direct and semi-direct implementations of second-order perturbation theory, including the derivation of a horizontal recurrence relation	416
G. L. Malli	<i>Ab initio</i> relativistic molecular orbital self-consistent field calculations for the thorium–platinum diatomic	421
Akitomo Tachibana, Shigeru Ishikawa, Wataru Sahara, and Tokio Yamabe	Atomic orbital-wise characterization of the vibronic attractive interaction in a model of an oxygen-containing organic polymer	427
K. Hirao	Analytic derivative theory based on the Hellmann–Feynman theorem	434
Jerzy Cioslowski and Stacey T. Mixon	Universality among topological properties of electron density associated with the hydrogen–hydrogen nonbonding interactions	443
Zheng Shi and Russell J. Boyd	The relationship between the rate–equilibrium coefficient α and transition state properties: a second-order Møller–Plesset perturbation study of S _N 2 reactions	450
A. W. Weiss	The calculation of atomic oscillator strengths: the lithium atom revisited	456
Arvi Rauh, T. Eggimann, H. Wieser, and Danya Yang	The infrared spectrum of 2-methylaziridine from scaled <i>ab initio</i> force fields	464
Gary G. Hoffman, Robert A. Harris, and Lawrence R. Pratt	Statistical theory of electron densities at nonzero temperatures	478
W. G. Laidlaw, W. G. Wilson, and Dennis A. Coombe	A lattice of foam flow in porous media: a random walker approach	482
J. L. Boorstein and T. Uzer	Dynamical barriers to transport in pulsed spin systems: quantum–classical correspondence in the kicked top	488
J. D. Doll, Steven W. Rick, and David L. Freeman	Stationary phase Monte Carlo methods: interference effects in quantum Monte Carlo dynamics	497
Hartmut Schmider, Robin P. Sagar, and Vedene H. Smith, Jr.	An investigation of atomic structure in position and momentum space by means of “ideal shells”	506
Roberto Moccia and Pietro Spizzo	A GTO basis set calculation of properties of the continuum. Photoionization and resonances of He	513
John E. Bertie and Shuliang L. Zhang	Infrared intensities of liquids. IX. The Kramers–Kronig transform, and its approximation by the finite Hilbert transform via fast Fourier transforms	520
Yuichi Yamamoto, Takeshi Noro, and Kimio Ohno	A test of composite natural orbitals for benzene	532
S. Fliszar, N. Desmarais, and G. Dancausse	Valence and core region energies of atoms in Hartree–Fock theory	537
Kenro Hashimoto and Yoshihiro Osamura	Orbital exponent optimization for molecular self-consistent-field wave functions including the polarization function	547
André D. Bandrauk and Hai Shen	Higher order exponential split operator method for solving time-dependent Schrödinger equations	555
Nathalie Godbout, Dennis R. Salahub, Jan Andzelm, and Erich Wimmer	Optimization of Gaussian-type basis sets for local spin density functional calculations. Part I. Boron through neon, optimization technique and validation	560
Roberta P. Saxon and Megumu Yoshimine	Theoretical study of nitro–nitrite rearrangement of CH ₃ NO ₂	572
R. Custodio, J. D. Goddard, M. Giordan, and N. H. Morgon	The application of an optimization technique to the development of universal basis sets	580
Mariusz Klobukowski	Computational studies on hydrates of alkaline-earth dications	589
André G. Michel, Chakib Ameiziane-Hassani, and Nathalie Bredin	Low-energy conformational domains of polypeptides, characterized by a random-search and minimization procedure	596
F. Grein and P. Deslongchamps	On the nature of the anomeric effect in XH _n –CH ₂ –OH systems, with X = F, O, N, C	604
Walter J. Stevens, Morris Krauss, Harold Basch, and Paul G. Jasien	Relativistic compact effective potentials and efficient, shared-exponent basis sets for the third-, fourth-, and fifth-row atoms	612

Leland C. Allen Chemical interpretation: basis set use and the Periodic Table	631
Paul C. Redfern, Jane S. Murray, and Peter Politzer Computational determination of the relative stabilities of some nitro carbocations	636
Hiroshi Tatewaki and Mutsumi Tomonari The electronic structure of small transition metal clusters	642
R. F. W. Bader and D. A. Legare Properties of atoms in molecules: structures and reactivities of boranes and carboranes	657
Hideo Sekino Diagrammatic analysis of nonlinear response properties in time-dependent Hartree-Fock theory	677
Omar A. Sharafeddin, Donald J. Kouri, and David K. Hoffman Time-dependent treatment of scattering: potential referenced and kinetic energy referenced modified Cayley approaches to atom-diatom collisions and time-scale separations	686
Notice to authors / Note aux auteurs	i
Dedication / Dédicace	iii
Author index / Index des auteurs	AI-1

MARCH/MARS

ARTICLES

John B. Milne Selenium sulfur dihalides, Ch_nX_2 ($n = 1, 2, 3$; $\text{Ch} = \text{Se}, \text{S}$; $\text{X} = \text{Br}, \text{Cl}$). Raman and ^{77}Se NMR spectroscopic characterization	693
Deqi Guo, J. Stephen Hartman, and Mary Frances Richardson Long-range shielding and NMR chemical shifts in silicon carbide polytypes	700
Neil Burford, Trenton M. Parks, Bruce W. Royan, John F. Richardson, and Peter S. White Benzothiarsoium cations: evidence for $p\pi$ -bonding between arsenic and sulfur in the first structurally characterized arsenium system	703
T. Chivers and K. J. Schmidt Sulphur-nitrogen anions: ^{14}N and ^{15}N NMR investigations of the deprotonation of cyclic sulphur imides and sulphur-ammonia solutions	710
Tristram Chivers, Risto S. Laitinen, and Kenneth J. Schmidt ^{77}Se NMR spectroscopic study of the molecular composition of sulfur-selenium melts	719
Paul K. Hurlburt, Oren P. Anderson, and Steven H. Strauss Preparation and characterization of $\text{Ti}(\text{1,2-C}_2\text{H}_3\text{Cl}_2)_2\text{B}(\text{OTeF}_5)_4$: a metal complex of a least coordinating solvent and a least coordinating anion	726
Jing-Long Du, Steven J. Rettig, Robert C. Thompson, James Trotter, Peter Betz, and Avi Bino Structure and magnetic properties of monophenylphosphinate bridged chain polymers of manganese(II), $[\text{MnL}_2(\text{HPhPO}_2)_2]_n$ (where $\text{L} = \text{HPhPO}_2\text{H}$, CH_3CONH_2 , H_2O , $\text{HCONH}(\text{CH}_3)$, and $\text{C}_5\text{H}_5\text{N}$)	732
R. J. Gillespie Electron densities and the VSEPR model of molecular geometry	742
Yun Xie, Chung-Li Lee, Yeping Yang, Steven J. Rettig, and Brian R. James Mono- and dinuclear palladium complexes containing 2-pyridylphosphine ligands, including X-ray characterization of $\text{Pd}_2\text{I}_2(\mu\text{-PPh}_2\text{py})_2$ and a dimethylacetylenedicarboxylate A-frame complex $\text{Pd}_2\text{Cl}_2(\mu\text{-Ppy})_2(\mu\text{-MeO}_2\text{C}\cdot\text{C}\equiv\text{C}\cdot\text{CO}_2\text{Me})$; $\text{py} = 2\text{-pyridyl}$	751
Zaihui Zhang, Steven J. Rettig, and Chris Orvig Physical and structural studies of <i>N</i> -carboxymethyl- and <i>N</i> -(<i>p</i> -methoxyphenyl)-3-hydroxy-2-methyl-4-pyridinone	763
Allen W. Applett, Alison C. Warren, and Andrew R. Barron Tris-triphenylsiloxy compounds of aluminium	771
Philip A. W. Dean, Jagadees J. Vittal, and Yuyang Wu Synthesis, multinuclear magnetic resonance spectra, and chemistry of some complexes $[(\mu\text{-SR})_6(\text{MX})_4]^{2-}$ ($\text{R} = \text{alkyl}$; $\text{M} = \text{Zn}$ or Cd ; $\text{X} = \text{Cl}, \text{Br}$, or I) and the X-ray structural analysis of $(\text{Et}_4\text{N})_2[(\mu\text{-SPr}')_6(\text{CdBr})_4]$	779
Jagadees J. Vittal, Philip A. W. Dean, and Nicholas C. Payne Metal-selenolate chemistry: stereochemistry of adamantane-type clusters of formula $[(\mu\text{-SePh})_6(\text{MSePh})_4]^{2-}$ ($\text{M} = \text{Zn}$ and Cd)	792
Khadija Moustaid, Nguyen Dinh An, Bernard Laude, Marie-France Mercier et Ahmed Sedqui Cycloaddition de la <i>C-p</i> -anisyl- <i>N</i> -phénylnitrimine sur deux énamines cycliques dérivées de la 1,2-dihydro-6,7-diméthoxyisoquinoléine-3-carboxylate d'éthyle. Régiochimie, stéréochimie et évolution des cycloadduits	802
Brigitte Duthu, Karim El Abed, Douraid Houalla, Robert Wolf et Joël Jaud Structure cristalline et moléculaire d'un composé tricyclique contenant le cycle à dix chaînons dioxo diaza diphosphécine	809
Gonzalo Blay, Luz Cardona, Begoña García, and José R. Pedro Synthesis of torrentin, dihydrosantamarine, and saussurea lactone from santanin	817
Mercedes Novo, Manuel Mosquera, and Flor Rodríguez Prieto Prototropic equilibria of 2-pyridylbenzimidazoles in aqueous solution	823
Pascal Bosseray, Gérard Coudert, Gérald Guillaumet, Georges Jeminet, Madeleine Tissier, and Jean Juillard Polyether carboxylic acids incorporating a benzodioxinic subunit: synthesis and complexing ability of sodium and potassium	828
M. C. Chakravorti and Gampa V. B. Subrahmanyam Electrosynthesis of thiocyanato and mixed ligand thiocyanato complexes of transition metals by the sacrificial dissolution of metal anodes	836
Pierre N. Crovisier, J. Hugh Horton, Carl S. Hassanali, and John M. Goodings Ion chemistry of aluminum and boron in methane-oxygen flames	839

Mark R. MacIntosh, Marco L. H. Gruwel, Katherine N. Robertson, and Roderick E. Wasylshen	Nuclear magnetic resonance studies of the methylammonium hexahalotellurates	849
Grazyna Wenska, Bohdan Skalski, and Zofia Gdaniec	Transformation of 1-methyluracils and uridine to respective, 4-substituted pyrimidin-2(1 <i>H</i>)-ones via pyridinium salts	856
Gang Wu, Roderick E. Wasylshen, and Ronald D. Curtis	A phosphorus-31 NMR study of solid carbonylhydridotris(tri-phenylphosphine)rhodium(I). Unusual MAS sideband intensities in second-order NMR spin systems	863
Annie Desbene-Monvernay, Ouzama Karazoun, Jacques Berthelot et Paul-Louis Desbene	Modelisation de la bromation au moyen de TBABr ₃ de matrices organiques complexes : suivi de la bromation de carbazoles à l'aide de la voltampérométrie et de la chromatographie liquide hautes performances	870
Refat Abdel-Hamid and Mohamed T. El-Haty	A stability and equilibrium study on Cd – salicylidene tris(hydroxymethyl) methylamine – chloride binary and ternary complexes	877
S. Alex, H. Le Thanh, and D. Vocelle	Studies of the effect of hydrogen bonding on the absorption and fluorescence spectra of all- <i>trans</i> -retinal at room temperature	880
Suliman N. Basahel and El-Hussieny M. Diefallah	Kinetic analysis of thermal decomposition reactions. VII. Effect of radiation and doping on the thermal decomposition of BaCO ₃ -TiO ₂ and SrCO ₃ -TiO ₂ crystalline mixtures	888
Leslie W. Tari and Anthony S. Secco	The structure of the pyranosyl nucleoside 1-(2',3'-dideoxy-β-D- <i>erythro</i> -hex-2'-enopyranosyl)thymine and a comparison with AZT	894
Claude Leblanc and François Brisse	Structural study in the oligomethylene dithiobenzoate series, <i>n</i> DBS, where <i>n</i> , the number of methylene groups, is odd	900
N. T. Kawai, D. F. R. Gilson, J. F. Britten, I. S. Butler, and P. G. Farrell	Crystal and molecular structures of 1,4-dibromo- and 1,4-diiodocubane	910
Takehisa Yoshinari and Gordon R. Freeman	Electron thermalization distance distribution and ion mobility in <i>n</i> -C ₆ F ₁₄	915
A. Wallace Cordes, Charles M. Chamchoumis, Robin G. Hicks, Richard T. Oakley, Kelly M. Young, and Robert C. Haddon	Mono- and difunctional furan-based 1,2,3,5-dithiadiazolyl radicals; preparation and solid state structures of 2,5-[(S ₂ N ₂ -C)OC ₄ H ₂ (CN ₂ S ₂)] and 2,5-[(S ₂ N ₂ C)OC ₄ H ₂ (CN)]	919
Gocool Persaud and Frederick F. Cantwell	Sorption of magnesium-picolinate complexes on a macroporous styrene-divinylbenzene copolymer containing immobilized 8-hydroxyquinoline and on the copolymer itself	926
N. N. Yakovlev and I. A. Godunov	The $\bar{a}^3A'' \leftarrow \bar{X}^1A'$ electronic spectra of acetaldehyde- <i>h</i> ₄ and - <i>d</i> ₄	931
Włodzimierz Galewski and Arnold Jarczewski	Study of the dissociation of the products of some proton transfer reactions in acetonitrile solvent	935
Isabelle Ségalas and André L. Beauchamp	Preparation and structure of silver complexes with 4-nitroimidazole	943
Mark L. J. Reimer, John B. Westmore, and Manoranjan Das	Electron ionization mass spectrometry of cobalt(III) β-diketonates and monothio-β-diketonates possessing aryl and fluorinated alkyl substituents	952
Ian W. J. Still and Donna Kaye T. Wilson	α-Oxosulfines: reactions with alkenes and alkynes	964
N. H. Werstiuk, S. Yeroushalmi, and Hong Guan-lin	Synthesis of bicyclic diones and thiones. Facile methylation of the enolates of bicyclo[2.2.1]heptane-2,5-dione and bicyclo[2.2.2]octane-2,5-dione. An AM1 computational study of bicyclic enolates	974
G. W. Buchanan, S. Mathias, C. Bensimon, and J. P. Charland	Stereochemistry of crown ethers. X-ray crystallographic structures, solid phase ¹³ C NMR, and solution conformational equilibria in <i>cis-syn-cis</i> dicyclohexano-15-crown-5 ether and its sodium thiocyanate complex	981
James W. Hilborn and James A. Pincock	Photolysis of the 1-naphthylmethyl ester of substituted phenylacetic acids: intramolecular charge transfer and rates of decarboxylation of arylacyloxy radicals	992
Raul G. Enriquez, Ismael Leon, Fidel Perez, Fernando Walls, Katherine A. Carpenter, Frank V. Puzzuoli, and William F. Reynolds	Characterization, by two-dimensional NMR spectroscopy, of a complex tetrasaccharide glycoside isolated from <i>Ipomoea stans</i>	1000
COMMUNICATION		
Jun Yano, Kotaro Ogura, Akira Kitani, and Kazuo Sasaki	Unique electrochemical response of a polyaniline-film coated electrode to several dissolved organic species	1009
Notice to authors / Note aux auteurs		i
IUPAC recommendations / Recommandations de l'IUPAC		ii
Author index / Index des auteurs		AI-I

APRIL/AVRIL

ARTICLES

Sydney K. Brownstein, Eric J. Gabe, and Rosemary C. Hynes	Reactions of ferrocene and nickelocene with some stable carbonium ions	1011
--	--	------

Reginald H. Mitchell, Mahima Chaudhary, Richard Vaughan Williams, Robert Fyles, Jack Gibson, Michael J. Ashwood-Smith, and Albert J. Fry Straining strained molecules. III. The spectral and mutagenic properties and an alternate synthesis of diacepylene and dicyclopenta[1,2,3-cd:1',2',3'-lm]perylene	1015
Zeev Gross and Shmaryahu Hoz Curve crossing analysis of LFER data in Michael addition reactions	1022
Nigel J. Bunce, H. Stewart McKinnon, Randy J. Schnurr, Sam R. Keum, and Erwin Buncel Fragmentation pathways in the mass spectra of isomeric phenylazoxypyridine- <i>N</i> -oxides	1028
G. W. Buchanan, A. Rodrigue, C. Bensimon, and C. I. Ratcliffe The 18-crown-6.2 chloroacetonitrile complex. X-ray crystal structure and solid phase motions of guest and host as studied by variable temperature ¹³ C CPMAS NMR spectroscopy	1033
J. Peter Guthrie A group equivalents scheme for free energies of formation of organic compounds in aqueous solution	1042
J. Peter Guthrie and Xiao-Ping Wang The aldol condensation of acetone with acetophenone	1055
J. Hugh Horton and John M. Goodings Silicon cation and anion chemistry in a fuel-rich, methane-oxygen flame	1069
Tony Durst and Leslie Donald Behnia Synthesis of non-enolizable α- and β-peltatins	1082
Joseph C. Feng A microcolumn method for hexazinone and metabolite residues in soil and vegetation	1087
Stefano Chimichi, Barbara Cosimelli, Fabrizio Bruni, and Silvia Selli ¹ H and ¹³ C NMR study of the pyrazolo[1,5- <i>a</i>]pyrimidine system	1093
O. Savadogo Comportement photoélectrochimique de ZnIn ₂ S ₄ (n) dans l'obscurité et sous éclairage en solution électrolytique aqueuse	1098
Zouhair Bounja, Douraid Houalla, Monique Revel et Robert Wolf Phosphoranes et thio-oxazaphospholidines d'aldohexoses protégés. Synthèses et études stéréochimiques	1105
F. E. Smith, Rosemary C. Hynes, T. T. Ang, L. E. Khoo, and G. Eng The synthesis and structural characterization of a series of pentacoordinate diorganotin(IV) <i>N</i> -arylidene-α-amino acid complexes	1114
Martin K. Ehlert, Alan Storr, and Robert C. Thompson Metal pyrazolate polymers. Part 3. Synthesis and study of Cu(I) and Cu(II) complexes of 4-Xdmpz (where X = H, Cl, Br, I, and CH ₃ for Cu(I) and X = H, Cl, Br, and CH ₃ for Cu(II); dmpz = 3,5-dimethylpyrazolate)	1121
Xun-Yun Sun, Brian Millier, and Walter A. Aue Flame photometric detection of some transition metals. I. Calibrations and spectra	1129
Walter A. Aue, Brian Millier, and Xun-Yun Sun Flame photometric detection of some transition metals. II. Enhancement of selectivity	1143
John A. Walter, Donald M. Leek, and Michael Falk NMR study of the protonation of domoic acid	1156
Lucjan J. J. Hronowski and Walter A. Szarek Synthesis of cyclopentane analogs of 5-fluorouracil nucleosides	1162
George R. Pettit, Jeremiah C. Collins, Delbert L. Herald, Dennis L. Doubek, Michael R. Boyd, Jean M. Schmidt, John N. A. Hooper, and Larry P. Tackett Isolation and structure of cribrostatis 1 and 2 from the blue marine sponge <i>Cribrochalina</i> sp.	1170
Wolfgang Kliegel, Lutz Preu, Ute Schumacher, Steven J. Rettig, and James Trotter Structural studies of organoboron compounds L. 4-(2-Hydroxy-2,2-diphenylacetyl)-6,6-pentamethylene-2-phenyl-1,3-dioxo-4-aza-2-boracyclohexane and 4-[2,2-difluoro-5,5-bis(4-methoxyphenyl)-1,3-dioxo-2-borata-4-cyclopentylidene]-6,6-pentamethylene-2-phenyl-1,3-dioxo-4-azonia-2-boracyclohexane	1176
Wolfgang Kliegel, Ute Schumacher, Steven J. Rettig, and James Trotter Structural studies of organoboron compounds LI. <i>N</i> -Methylhydroxylamine(<i>O</i> -B)2,5-diphenyl-1,3,2-dioxaborolan-4-one	1188
John W. Bunting, Andrea Toth, and James P. Kanter Kinetics and mechanism of the formation of <i>N</i> -vinyl pyridinium cations in elimination reactions in aqueous base	1195
Edward Piers and Richard W. Friesen Annulations leading to diene systems. Total syntheses of the dolastane-type diterpenoids (±)-(5 <i>S</i> ,12 <i>R</i> ,14 <i>S</i>)-dolasta-1(15),7,9-trien-14-ol and (±)-amijitrienol	1204
G. Angelini, G. Lilla, C. Sparapani, O. Ursini, E. Rossi, A. L. Segre, M. A. McAllister, and T. T. Tidwell Synthesis and tritium-induced ¹⁹ F NMR shifts of 1,1,1,4,4,4-hexafluoro-2,3-dinitro-2-butene	1221
Gang Wu, Roderick E. Wasylshen, William P. Power, and Graziano Baccolini Phosphorus-31 chemical shieldings in a fused <i>cis</i> -1,2,3-benzothiadiphosphole: a dipolar NMR study	1229
Notice to authors / Note aux auteurs	i
Author index / Index des auteurs	AI-1

MAY/MAI

This issue is dedicated to Professor Zdenek Valenta
Ce tirage est dédié au Professeur Zdenek Valenta

ARTICLES

- O. Boyé, A. Bossi, H. J. C. Yeh, E. Hamel, B. Wegrzynski, and V. Toome** Natural products. Antitubulin effect of congeners of *N*-acetylcolchiciny methyl ether: synthesis of optically active 5-acetamidodeaminocolchiciny methyl ether and of demethoxy analogues of deaminocolchiciny methyl ether

1237

Frank Bottomley and Robert W. Day	Organometallic oxides and sulfides: preparation of $[(\eta\text{-C}_5\text{H}_5)_2\text{Ti}(\mu_3\text{-S})_6]$, $[(\eta\text{-C}_5\text{H}_5)_2\text{Ti}(\mu_3\text{-S})_5(\mu_3\text{-S}_2)(\mu_4\text{-O})]$, and $(\eta\text{-C}_5\text{H}_5)_2\text{Ti}(\text{SH})(\mu\text{-O})\text{Ti}(\eta\text{-C}_5\text{H}_5)(\mu\text{-S})_2\text{-Ti}(\eta\text{-C}_5\text{H}_5)_2$ by reductive aggregation of $(\eta\text{-C}_5\text{H}_5)_2\text{Ti}(\text{SH})_2$ with zinc powder or by oxidation of $(\eta\text{-C}_5\text{H}_5)_2\text{Ti}(\text{CO})_2$ with H_2S in the presence of water	1250
Baldwin S. Mootoo, Cumadá Játiva, Winston F. Tinto, William F. Reynolds, and Stewart McLean	Ecuadorin, a novel tetranortriterpenoid of <i>Guarea kunthiana</i> : structure elucidation by 2-D NMR spectroscopy	1260
Suzanne Girard and Pierre Deslongchamps	Formation of 14-membered carbocycles by intramolecular Michael addition on ynones and enones	1265
Wendy Sifton, J. B. Stothers, and Shirley E. Thomas	β -Enolization in α -phenyl- α,α',α' -trimethylcycloalkanones	1274
L. A. Blais, J. W. ApSimon, B. A. Blackwell, R. Greenhalgh, and J. D. Miller	Isolation and characterization of enniatins from <i>Fusarium avenaceum</i> DAOM 196490	1281
John E. Francis and Michael A. Moskal	A general synthesis of 5,7-diaminoimidazo[4,5- <i>b</i>]pyridine ribosides ("2-amino-1-deazaadenosines") from 5-amino-4-imidazolecarboxamide riboside (AICA riboside)	1288
James R. Gillard and D. Jean Burnell	π -Facial diastereoselectivity in the Diels-Alder reactions of <i>cis</i> -cyclohexa-3,5-diene-1,2-diol and derivatives with <i>N</i> -phenylmaleimide	1296
Gertrude C. Kasitu, John W. ApSimon, Barbara A. Blackwell, David A. Fielder, Roy Greenhalgh, and J. David Miller	Isolation and characterization of culmorin derivatives produced by <i>Fusarium culmorum</i> CMI 14764	1308
George M. Strunz and Li Ya	2,2-Dimethylsuccinic acid derivatives in isoprenoid synthesis: a 2,2-dimethylvinyl anion equivalent in the synthesis of <i>ar</i> -atlantone, <i>ar</i> -turmerone, and prenylated aromatic compounds	1317
Daniel T. W. Chu, Isabella M. Lico, Akiyo K. Claiborne, and Hermann Faubl	An alternative synthesis of temafloxacin, a potent antibacterial agent	1323
Daniel T. W. Chu, Akiyo K. Claiborne, Jacob J. Clement, and Jacob J. Plattner	Syntheses and antibacterial activity of novel 6-fluoro-7-(<i>gem</i> -disubstituted piperazin-1-yl)-quinolines	1328
William A. Ayer, Peter A. Craw, and John Neary	Metabolites of the fungus <i>Arthropsis truncata</i>	1338
William A. Ayer and Peter A. Craw	Biosynthesis and biogenetic interrelationships of metabolites of the fungus <i>Arthropsis truncata</i>	1348
Leo A. Paquette, Christophe M. G. Philippo, and Nha Huu Vo	Ring expansion by tandem double Tebbe-Claisen technology	1356
Hang Tang, Tilak P. Wijesekera, and David Dolphin	Synthesis and characterization of derivatized capped porphyrins	1366
Tse-Lok Ho, Wen-Lung Yeh, John Yule, and Hsing-Jang Liu	Diels-Alder approach to (\pm)-longifolene: A formal synthesis	1375
Edward Piers, Richard W. Friesen, and Steven J. Rettig	Annulation sequences employing methyl (<i>E</i>)- and (<i>Z</i>)-6-iodo-3-trimethylstannyl-2-hexenoates and related bifunctional reagents. Preparation of <i>cisoid cis</i> and <i>cisoid trans</i> bicyclic dienes	1385
Oliver E. Edwards, Dusan Dvornik, Ralph J. Kolt, and Barbara A. Blackwell	Formation, reactions, and NMR spectra of 1,20-cyclootidanes	1397
Jean-François Lavallée, Claude Spino, Réjean Ruel, Keith T. Hogan, and Pierre Deslongchamps	Stereoselective synthesis of <i>cis</i> -decalins via Diels-Alder and double Michael addition of substituted Nazarov reagents	1406
Leonard Lermer, Edward G. Neeland, James P. Ounsworth, Russell J. Sims, Samuel A. Tischler, and Larry Weiler	The synthesis of β -keto lactones via cyclization of β -keto ester dianions or the cyclization of Meldrum's acid derivatives	1427
Robert H. Burnell and Stéphane Caron	Approach to the synthesis of candelabrone and synthesis of 3,7-diketo-12-hydroxyabieta-8,11,13-triene	1446
James P. Kutney, Gary M. Hewitt, Gin Lee, Krystyna Piotrowska, Malcolm Roberts, and Steven J. Rettig	Studies with tissue cultures of the Chinese herbal plant, <i>Tripterygium wilfordii</i> . Isolation of metabolites of interest in rheumatoid arthritis, immunosuppression, and male contraceptive activity	1455
Lucio Minuti, Roberta Selvaggi, Aldo Taticchi, Ming Guo, and Ernest Wenkert	Diels-Alder reactions of bicyclic, heteroannular dienones	1481
Masao Tsukazaki and Victor Snieckus	Directed <i>ortho</i> metalation - radical-induced cyclization synthetic connections. A route to highly substituted benzofurans	1486
Peter Yates and Magdy Kaldas	The synthesis of norbornanes with functionalized carbon substituents at a bridgehead. 1-(3-Oxonorborn-1-yl)ethanone and 1-(3-oxonorborn-1-yl)-2-propanone	1492
Jana Pika, Mark Tischler, and Raymond J. Andersen	Glaciasterols A and B, 9,11-secosteroids from the marine sponge <i>Aplysilla glacialis</i>	1506
Rémy Cromer, Ulrike Spohr, Deveshwari P. Khare, Jacques LePendu, and Raymond U. Lemieux	Molecular recognition XII. The binding of the H human blood group determinants and congeners by a lectin of <i>Galactia tenuiflora</i>	1511
Rubén Sánchez-Obregón, Alex G. Fallis, and Arthur G. Szabo	Syntheses of a potential fluorescence probe, (-)-(R)-7-azatryptophan, via alkylation of the (1 <i>R</i> ,4 <i>R</i>)-camphor imine of <i>tert</i> -butylglycinate	1531
J. Andrew Clase and Thomas Money	An enantiospecific route to C,D ring synthons for steroid synthesis	1537
Hsing-Jang Liu, Gerardo Ulbarri, and Eric N. C. Browne	Diels-Alder reactions of 2-carbomethoxy-4,4-dimethyl-2-cyclopenten-1-one	1545
Zbigniew Czarnocki, Dennis Suh, David B. MacLean, Philip G. Hultin, and Walter A. Szarek	Enantioselective synthesis of 1-substituted tetrahydroisoquinoline-1-carboxylic acids	1555

F. Grein and P. Deslongchamps The anomeric and reverse anomeric effect. A simple energy decomposition model for acetals and protonated acetals	1562
Stephen H. Kawai, Daguang Wang, and George Just Synthesis of the thymidine building blocks for a nonhydrolyzable DNA analogue	1573
Notice to authors / Note aux auteurs	i
Dedication / Dédicace	iii
Author index / Index des auteurs	AI-1

JUNE/JUIN

ARTICLES

Terrence J. Connolly and Vincent C. Reinsborough Micellar rate enhancement studies in mixed sodium fluorocarbon/hydrocarbon surfactant solutions	1581
Daniel Figeys, Małgorzata Koschmidder, and Robert L. Benoit Enthalpies of solution of naphthalene, <i>N,N</i> -dimethyl-1-naphthylamine, and 1,8-bis(dimethylamino)naphthalene in 16 organic solvents	1586
Donald S. Gamble and L. Ali Ismaily Atrazine in mineral soil: the analytical chemistry of speciation	1590
Donald S. Gamble and Shahamat U. Khan Atrazine in mineral soil: chemical species and catalysed hydrolysis	1597
Koichi Iinuma and Masahiro Takebe Mathematical analysis of reactive ion transport in dynamic equilibrium: The case of two ionic species	1604
Idriss El Bakali, Essaid El Rhess, Christophe Rousselot, René Mercier, and Marie-France Mercier NMR kinetic study of ethyl silicate hydrolysis by ammonia in alcoholic solvents	1612
Norman Gee and Gordon R. Freeman Electron thermalization distances and free-ion yields in dense gaseous and liquid benzene	1618
T. Stanley Cameron, Pradip K. Bakshi, Rasiyah Thangarasa, and T. Bruce Grindley The crystal structure of methyl 4,6- <i>O</i> -benzylidene-2,3- <i>O</i> -dibutylstannylene- α -D-glucopyranoside	1623
Prem P. Singh and Sanjeev Maken A model of nonelectrolytic behaviour: activity coefficients	1631
Salvador B. Asensio, Enrique Lopez-Cantarero, and Juan Llor The thermodynamics of the ionization of 3-hydroxypyridine and pyridoxine in water-dioxane mixtures	1635
Enric Bosch, Miquel Moreno, and José M. Lluch Intramolecular hydrogen bonding in ribonucleoside sugar hydroxyls. An <i>ab initio</i> study	1640
A. C. Chialvo Integral method for infinite dilution activity coefficients calculation	1645
Jean-Louis Roustau, Nasrin Ansari, Yvon Le Page, and Jean-Pierre Charland Molecular geometry of $M(NO)_2$ complexes: single crystal X-ray structure of $Co(NO)_2(C_5H_5N)_2^+BF_4^-$, lability of the pyridine ligands of $Co(NO)_2(C_5H_5N)_2^+$, and its relevance to the formation of the $Co_2(NO)_3^+$ bimetallic core	1650
A. John Elliot A pulse radiolysis study of the reaction of OH with I_2 and the decay of I_2^-	1658
Hee Moon Park, David M. Piatak, John R. Peterson, and Alice M. Clark Synthesis of sugar-glutarimide combinations	1662
Andrew W. Hakin and Colin L. Beswick Single-ion enthalpies and entropies of transfer from water to aqueous urea solutions at 298.15 K	1666
J. Peter Guthrie, David C. Pike, and Yiu-Chung Lee Equilibrium constants and heats of formation of methyl esters and <i>N,N</i> -dimethyl amides of substituted benzoic acids	1671
Ahmed Hassan, H. A. Azab, S. A. El Gyar, and Z. A. Khafagy Medium effect on the second-stage dissociation constant of <i>N</i> -(2-acetamido)imino diacetic acid (H_2ADA)	1684
G. W. Buchanan, Y. Lear, and C. Bensimon The sodium perchlorate complex of <i>cis-syn-cis</i> dicyclohexano-24-crown-8 ether. X-ray crystal structure and solution conformations as studied by variable temperature ^{13}C NMR spectroscopy at 125 MHz. An example of eight-coordinate sodium	1688
E. A. Robinson The duodecet rule: Part 3. Fluoro species of the third period elements	1696
A. Bruce McKague, Douglas W. Reeve, Steven J. Rettig, and James Trotter Reactions of lignin model compounds with pulp bleaching chemicals. Cannizzaro-type reaction of tetrachloro- <i>o</i> -benzoquinone with alkali	1706
A. Bruce McKague, Douglas W. Reeve, Steven J. Rettig, and James Trotter Reactions of lignin model compounds with pulp bleaching chemicals. Reactions of 4-methyltrichlorocatechol	1711
Jeffrey D. Chambers, Jason Crawford, Haydn W. R. Williams, Claude Dufresne, John Scheigetz, Michael A. Bernstein, and Cheuk K. Lau Reactions of 2-phenyl-4 <i>H</i> -1,3,2-benzodioxaborin, a stable <i>ortho</i> -quinone methide precursor	1717
S. Lamothe, K. L. Cook, and T. H. Chan Chiral organosilicon compounds in synthesis. Preparation and stereoselective alkylations of silylcinnamyl carbanions	1733
Sylvie Tondou, Gérard Jaouen, Michael F. D'Agostino, Krisztina L. Malisza, and Michael J. McGlinchey A variable-temperature ^{13}C NMR study of $(\eta^5-C_5H_5)_2Mo_2(CO)_4$ complexes of chiral alkynes derived from a terpene or a hormonal steroid: interconversion of diastereomers via exchange of terminal and semi-bridging carbonyls	1743

Ted Schaefer, James R. Mansfield, Frank R. Hruska, and Rudy Sebastian	The solvent dependence of the small internal barrier to rotation in 3,5-dichlorobenzyl fluoride	1750
Xinhua Shen and Adriaan van Heiningen	Synthesis of β -O-4 lignin model dimers and their chlorinated derivatives	1754
Dake Yu, David A. Armstrong, and Arvi Rauk	Hydrogen bonding and internal rotation barriers of glycine and its zwitterion (hypothetical) in the gas phase	1762
Shuang Liu, C. Robert Lucas, Rosemary C. Hynes, and Jean-Pierre Charland	Structure effects in copper coordination compounds of ligands with thioether, aromatic nitrogen, and ether donors	1773
E. O. Alonso, L. J. Johnston, J. C. Scaiano, and V. G. Toscano	Laser flash photolysis studies of the formation and reactivities of phenyl(naphthyl)methyl carbocations generated from phosphonium salt precursors	1784
Margaret Ann James, Osvald Knop, and T. Stanley Cameron	Crystal structures of $(n\text{-Pr}_4\text{N})_2\text{SnCl}_6$, $(n\text{-Pr}_4\text{N})[\text{TeCl}_4(\text{OH})]$, $(n\text{-Pr}_4\text{N})_2[\text{Te}_2\text{Cl}_{10}]$ (nominal), and $(n\text{-Pr}_4\text{N})_2[\text{Se}_2\text{O}_2\text{Cl}_6]$, with observations on $\text{Z}_2\text{L}_{10}^{2-}$ and $\text{Z}_2\text{L}_8^{2-}$ dimers in general	1795
G. L. Malli, A. B. F. Da Silva, and Yasuyuki Ishikawa	Universal Gaussian basis functions in relativistic quantum chemistry: atomic Dirac-Fock-Coulomb and Dirac-Fock-Breit calculations	1822
Garry W. Buchko and Jean Cadet	Identification of 2-deoxy-D-ribo-1,4-lactone at the site of benzophenone photosensitized release of guanine in 2'-deoxyguanosine and thymidyl-(3'-5')-2'-deoxyguanosine	1827
Yan Xiang and Gilles Villemure	Electron transport in clay-modified electrodes: study of electron transfer between electrochemically oxidized tris (2,2'-bipyridyl) iron cations and clay structural iron(II) sites	1833
Dean R. Artis, In-Seop Cho, and Joseph M. Muchowski	Radical-based syntheses of 5-benzoyl-1,2-dihydro-3H-pyrrolo[1,2-a]pyrrole-1-carboxylic acid (ketorolac)	1838
J. Bessière et M. A. Aroua	Détermination par voie électrochimique des propriétés acido-basiques et oxydo-réductrices des solutions concentrées en acide phosphorique progressivement neutralisées par la soude	1843
Yu-Hong Tse, Pamela R. Auburn, and A. B. P. Lever	The <i>trans-cis</i> isomerisation of bis(dioxolene)bis(pyridine) ruthenium complexes	1849
Keith D. Gallicano, Norman L. Paddock, Steven J. Rettig, and James Trotter	The molecular and electronic structure of 1-pyrazolylphosphazenes	1855

COMMUNICATION

J.-P. Jay-Gerin et C. Ferradini	L'ion positif géminé intervient-il sur le destin de l'électron piégé incomplètement relaxé dans les liquides polaires irradiés?	1869
--	---	------

ADDITIONS AND CORRECTIONS/AJOUTS ET CORRECTIONS

Ted Schaefer, Kerry J. Cox, and Rudy Sebastian	The conformational distribution of 2-cyanobenzaldehyde and 3-cyanobenzaldehyde in solution and in the vapor	1872
---	---	------

Notice to authors / Note aux auteurs

i

Author index / Index des auteurs

AI-1

JULY/JUILLET

ARTICLES

Otto Exner	Studies of complex formation from permittivity measurements: a statistical reexamination	1873
D. P. DeCosta and J. A. Pincock	Intramolecular electron transfer in the photochemistry of substituted 1-naphthylmethyl esters of benzoic acids	1879
Liqin Chen, Laurence K. Thompson, and John N. Bridson	Coordination chemistry of thioether-pyridazine macrocycles. I. Synthetic, structural, and spectroscopic studies of Cu(II) and Cu(I) complexes of novel thioether-pyridazine macrocycles that contain two or three pyridazine subunits	1886
David M. Wardlaw	Reaction path Hamiltonian for the association reactions $\text{CH}_3 + \text{H}$ and $\text{CH}_3 + \text{D}$	1897
William A. Ayer and Yu-ting Ma	Sirosterol and dehydroazasirosterol, unusual steroidal adducts from a <i>Sirococcus</i> species	1905
V. Múčka	Reduction of two-component $\text{CuO-Cr}_2\text{O}_3$ mixed oxides and their catalytic activity	1914
Traci R. Bryar and Donald R. Eaton	Electronic configuration and structure of paramagnetic iron dinitrosyl complexes	1917
N. K. Labhsetwar and O. P. Shrivastava	Thermally stable coordination compounds intercalated in montmorillonite clay mineral	1927
Hemant K. Sinha, S. Muralidharan, and Keith Yates	Ground and excited state dipole moments of planar vs. twisted <i>p-N</i> ,-(dimethylamino)benzonitrile systems: maximum charge transfer for minimum overlap	1932
Réjean Ruel and Pierre Deslongchamps	Stereocontrolled synthesis of optically active 14 β -hydroxy steroids and other steroid derivatives	1939
Chin Yu, Ta-Horng Yang, Chao-Jung Yeh, and Li-Chin Chuang	Combined use of NMR, distance geometry, and restrained energy minimization for the conformational analysis of 8-lysine-vasopressin	1950
Nadia Boughandjioua, Lin Rui Chao, Alexios-Leandros Skaltsounis, Elisabeth Seguin, François Tillequin et Michel Koch	Synthèses du β -L-rhamnopyranoside d'hordénine et d'acetylgluco-L-rhamnopyranoses peracétylés	1956

Nigel J. Bunce and Helena G. Dryfhout Diurnal and seasonal modelling of the tropospheric half-lives of polycyclic aromatic hydrocarbons	1966
Nick Henry Werstiuk, George Timmins, Jiangong Ma, and Timothy A. Wildman Computational and ultraviolet photoelectron spectroscopic evidence that (Z)-2-methyl-1,3-pentadiene prefers twisted <i>s-cis</i> conformers in the gas phase	1971
R. Scott Daniels, Donald C. Wigfield, and Kenneth S. Williams Mathematical modelling of atom loss in delivery tubing	1978
Margaret M. Kayser, Krista L. Hatt, and Donald L. Hooper Mechanism of Wittig reaction with cyclic anhydrides	1985
V. Kanazirev and T. Tsoncheva A study of the nonstationary character of the methanol-to-hydrocarbons conversion	1997
Shen Weiguo and Arthur G. Williamson Volumes of mixing of ternary alkane mixtures with branched chain components	2003
R. Umarani and G. Radhakrishnan Structure-reactivity correlations of substituted 2-phenylthiazolidines	2009
Wolfgang Kliegel, Gottfried Lubkowitz, Steven J. Rettig, and James Trotter Structural studies of organoboron compounds. LII. <i>N</i> -Ethylhydroxylamine-(<i>O</i> - <i>B</i>)1,7-diethyl-3,5-diphenyl-2,4,6-trioxa-7-aza-1-azonia-3-bora-5-boratabicyclo[3.3.0]octane	2015
Wolfgang Kliegel, Gottfried Lubkowitz, Steven J. Rettig, and James Trotter Structural studies of organoboron compounds. LIII. <i>N,N</i> -Diethylhydroxylamine(<i>O</i> - <i>B</i>)1,7-dimethyl-3,5-diphenyl-2,4,6-trioxa-7-aza-1-azonia-3-bora-5-boratabicyclo[3.3.0]octane	2022
Wolfgang Kliegel, Gottfried Lubkowitz, Steven J. Rettig, and James Trotter Structural studies of organoboron compounds. LIV. 4-Cyclohexyl-2-methyl-3,6,8-triphenyl-5,7,9-trioxa-4-aza-1-azonia-8-bora-6-boratabicyclo[4.3.0]nonane	2027
Wolfgang Kliegel, Gottfried Lubkowitz, Steven J. Rettig, and James Trotter Structural studies of organoboron compounds. LV. <i>N,N'</i> -Di- <i>tert</i> -butyl- <i>N,N'</i> -dihydroxypropane-1,3-diamine(<i>O</i> - <i>B</i>)ethoxydiphenylborane and <i>N</i> ¹ , <i>N</i> ² -di- <i>tert</i> -butyl- <i>N</i> ¹ , <i>N</i> ² -dihydroxy-1-phenylpropane-1,3-diamine(<i>N</i> ² - <i>O</i> - <i>B</i>)hydroxydiphenylborane	2033
Alan R. Katritzky, Irina V. Shcherbakova, Robert D. Tack, and Peter J. Steel Reactions of unactivated olefins with Vilsmeier reagents	2040
Luis F. Sala, Sandra R. Signorella, Marcela Rizzotto, María I. Frascaroli, and Fabio Gandolfo Oxidation of L-rhamnose and D-mannose by Cr(VI) in perchloric acid. A comparative study	2046
Graciela M. Escandar and Luis F. Sala Complexes of Cu(II) with D-alonic and D-aluronic acids in aqueous solution	2053
Edward Piers, Timothy Wong, and Keith A. Ellis Use of lithium (trimethylstannyl)(cyano)cuprate for the conversion of alkyl 2-alkynoates into alkyl (<i>Z</i>)- and (<i>E</i>)-3-trimethylstannyl-2-alkenoates	2058
George R. Elia, Ronald F. Childs, and Gary S. Shaw Thermal cyclizations of protonated poly-unsaturated aldehydes	2065
Xiaoping Li and John A. Stone A CAD study of isobaric (CH ₃) ₃ SiArH ⁺ ions (ArH = benzene, toluene) formed by association and protonation	2070
Bruce J. Acken, David E. Gallis, James A. Warshaw, and DeLanson R. Crist Electrochemical behavior of <i>C</i> -methoxy, amino, cyano, and mercapto nitrones	2076
Zhengchun Liu, Alessandro Granata, Xinhua Shen, and Arthur S. Perlin Reactions of hydriodic acid with aldonolactones and <i>n</i> -alkanolactones. Interconversions between lactones and iodo-carboxylic acids	2081
Tuan Q. Nguyen, Fanqi Qu, Xiaoling Huang, and Alexander F. Janzen Preparation and NMR spectra of PF ₄ (N-N) ⁺ and SiF ₄ (N-N), where N-N = 2,2'-bipyridine, 4-fluoro-2,2'-bipyridine, and 1,10-phenanthroline	2089
James P. Kutney, Philip J. Gunning, Robin G. Clewley, John Somerville, and Steven J. Rettig The chemistry of thujone. XVI. Versatile and efficient routes to safronitrile, β-cyclogeranonitrile, β-cyclocitral, damascones, and their analogues	2094
James P. Kutney, G. M. Hewitt, Terence C. Jarvis, Jan Palaty, and Steven J. Rettig Studies with plant cell cultures of <i>Catharanthus roseus</i> . Oxidative coupling of dibenzylbutanolides catalyzed by plant cell culture extracts	2115
Notice to authors / Note aux auteurs	i
IUPAC recommendations / Recommandations de l'UICPA	iii
Author index / Index des auteurs	AI-1

AUGUST/AOÛT

ARTICLES

Clifford Pratt, Yue-jin Liu, Ting-yi Chu, Karin Melkonian, Burton E. Tropp, and Robert Engel Phosphonolipids. 3. Phosphonic acid analogues of phosphatidylinositol and related materials	2135
S. R. Shakya and T. Durst Studies on novel carbacephem analogs: synthesis of 7-methoxy-homo-PS-5 and a 7-methoxy-8-epi-homothienamycin intermediate	2142
L. Ross C. Barclay, Kelly A. Dakin, and Hayder A. Zahalka Ascorbate: antioxidant activity determined in a hydrocarbon phase using quaternary ammonium salts as phase-transfer agents	2148
Lawrence D. Colebrook and Ning Qing A study of computed rotational barriers of methyl groups and ¹ H and ¹³ C spin-lattice relaxation rates in some steroids	2154
Martin K. Ehlert, Steven J. Rettig, Alan Storr, Robert C. Thompson, and James Trotter Polynuclear pyrazolate complexes of copper. Crystal and molecular structures of [Cu(tmpz)] ₃ , [Cu(3-CO ₂ dmpz)(tmpzH)] ₂ Cu, and [Cu(4-Br-3-CO ₂ mepz)(4-Br-dmpzH) ₂] ₂ (where mepz = methylpyrazolate, dmpz = dimethylpyrazolate, and tmpz = trimethylpyrazolate) and magnetic susceptibility studies on the dinuclear complex	2161

Olivier Dangles and Raymond Brouillard Polyphenol interactions. The copigmentation case: thermodynamic data from temperature variation and relaxation kinetics. Medium effect	2174
Ghislaine Martin, Jean Sauleau, Michèle David, Armelle Sauleau et Sourisak Sinbandhit Hydroxythioéthers éthyléniques : synthèse et réarrangement spontané	2190
Néji Bourguiba et Tahar Jouini Isothermes 75°C, des systèmes ternaires limitant le système quaternaire réciproque : H^+ , K^+ , PO_4^{3-} , SO_4^{2-} , H_2O	2197
Ewa D. Raczynska, Christian Laurence et Michel Berthelot Basicité de liaison hydrogène de formamidines substituées sur l'azote imino	2203
Markus Haeblerlein, Jane S. Murray, Tore Brinck, and Peter Politzer Calculated electrostatic potentials and local surface ionization energies of <i>para</i> -substituted anilines as measures of substituent effects	2209
William R. Cullen, Steven J. Rettig, and Tu Cai Zheng Crystal and molecular structures of two triosmium carbonyl cluster complexes containing <i>ortho</i> -metalated phenylphosphines $(\mu-H)Os_3(CO)_8L[PFcPh(C_6H_4)]$ ($L = PFcPh_2$ or CO)	2215
Keith Vaughan, Donald L. Hooper, and Marcus P. Merrin Open-chain nitrogen compounds. Part XV. A kinetic study of the hydrolysis of 1-aryl-3-aryloxymethyl-3-methyltriazenes and related triazenes	2224
C. F. Rodriguez and A. C. Hopkinson The acidity of polyhalogenated silanes and silyl radicals	2234
Lynn M. Cameron, Keith Vaughan, and Donald L. Hooper Synthesis of a series of 3-aryl-1-methyltriazene 1-oxides with substituents in the <i>ortho</i> or <i>para</i> position in the aryl group	2241
Manish Bhattacharjee, Mihir K. Chaudhuri, and Pradip C. Paul Synthesis and physico-chemical studies of newer mono and diperoxo heteroligand complexes of vanadium	2245
Robert Dash and Pierre G. Potvin Short syntheses of rigid acyclic or macrocyclic poly-imine ligands and their use in Ru(II), Fe(III), and alkali metal complexation	2249
Stephen Bianchet and Pierre G. Potvin The solution structures of chiral Ti^{4+} alkoxides. II. The roles of diolate basicity and side-chain binding group polarity	2256
Patrick Boutoute et Guy Mousset Réduction électrochimique régiosélective d'aroyl-2- ou d'acetyl-2 chromones en milieu non aqueux	2266
Youla S. Tsantrizos, Kelvin K. Ogilvie, and Alan K. Watson Phytotoxic metabolites of <i>Phomopsis convolvulus</i> , a host-specific pathogen of field bindweed	2276
Carlos A. Blanco and Michael J. Hynes Catalysis of the deprotonation of β -diketones during formation of the 1:1 metal complexes	2285
Martine Varache-Lembege, Alain Nuhric, Guy Devaux, and Françoise Duboudin Transient 1,3-dipoles containing sulfur: a novel example of rearrangement from ethyl-1-oxo-1-(2,3-dichloro-4-phenoxyacetic acid)-2-[3-thio-5-(4-chlorophenyl)-1,2-dithiolium] bromide	2290
Isabel Rozas and Gustavo A. Arteca Modeling the effect of Zn(II) on the hydrogen transfer in inhibition processes	2296
Carmen Dominguez, Joaquín Plumet, Antoine Gaset et Luc Rigal Étude des conditions de la réaction de condensation de Claisen-Schmidt de la furylméthylcétone sur le 2,5-furanedicarboxaldehyde	2306
Horacio N. Sólamo and José L. Zurita Influence of temperature on the liquid-to-liquid extraction of ethanol from (water + ethanol + 1,2-dichloroethane)	2310
Futong Cui and David Dolphin Iron porphyrin catalyzed oxidation of lignin model compounds: the oxidation of veratryl alcohol and veratryl acetate	2314
Boubker Nasser, Claude Morpain, Bernard Laude, and Norbert Latruffe Synthesis and characterization of chemical intermediates of acyl or alkyl phospholipids	2319
Notice to authors / Note aux auteurs	i
IUPAC recommendations / Recommandations de l'UICPA	ii
Author index / Index des auteurs	AI-1

SEPTEMBER/SEPTEMBRE

ARTICLES

Carlos Cativiela, Maria Dolores Diaz-de-Villegas, and José Antonio Galvez Chiral 2-acetamidoacrylates in conjugate addition - asymmetric enolate trapping reactions. Asymmetric synthesis of phenylalanine	2325
William R. Cullen, Steven J. Rettig, and Tu Cai Zheng Crystal and molecular structure of an unusual unsymmetrical isomer of 1,2- $Os_3(CO)_{10}\{P(C_6H_5)[(\eta-C_5H_4)Fe(\eta-C_5H_5)]_2\}_2$	2329
Miguel Quimpère, Luc Ruest, and Pierre Deslongchamps Transannular Diels-Alder cyclization of a substituted 13-membered macrocyclic triene. An approach to the A.B.C.[6.6.5] rings of the <i>Veratrum</i> alkaloids	2335
Anne Marinier and Pierre Deslongchamps Stereocontrolled chiral synthesis of a <i>trans-anti-trans</i> tricycle by a transannular Diels-Alder reaction	2350

Ted Schaefer, Rudy Sebastian, and Robert W. Schurko ^1H nuclear magnetic resonance and molecular orbital estimates of the internal rotational barrier in phenylpropynal in solution and in the vapor	2365
Ted Schaefer and Lina B.-L. Lee The conformational behavior of isobutylbenzene in $\text{CS}_2/\text{C}_6\text{D}_{12}$ solution at 300 K	2370
Ted Schaefer, Lina B.-L. Lee, and Rudy Sebastian Nonbonded $\text{C}=\text{O} \cdots \text{S}$ and $\text{C}-\text{H} \cdots \text{S}$ interactions in 2-(4-chlorophenylthio)benzaldehyde in solution. An average skew conformation	2375
Michael D. Fryzuk, Warren E. Piers, and Steven J. Rettig Reactions of nitriles with binuclear rhodium hydrides. The stepwise reduction of a carbon–nitrogen triple bond at two metal centres	2381
Włodzimierz Galezowski, Kenneth T. Leffek, and Przemysław Pruszyński Tetramethylguanidino-substituted pyrylium and thiopyrylium salts	2390
Ying Ru Zhang, Seymour Aronson, and P. Gary Mennitt Ionic dissociation in complexes of iodine with triphenylphosphine and triphenylamine	2394
Fathi M. Asseid, Jack M. Miller, and James H. Clark FT-IR and ^{29}Si , ^{27}Al , and ^{19}F MAS NMR studies of the adsorption of CdF_2 , ZnF_2 , and CuF_2 onto montmorillonite K10; activity towards Friedel–Crafts alkylation	2398
O. E. Edwards, J. L. Douglas, D. C. Horwell, W. Rank, and T. Sano Thermal and photochemical reactions of steroidal α -azido ketones	2405
Liu Yixian, J. A. Koningstein, and Y. Yevdokimov Identification of the tautomeric structure of $\text{H}_2\text{TMpyP4}$ –DNA complexes from resonance Raman excitation profiles	2413
Glenn H. Penner, Stephen I. Dalemán, and Angela R. Custodio Boron-11, boron-10, and nitrogen-14 NMR relaxation rates and quadrupole coupling constants in BH_3NH_3	2420
Steven M. Socol, Chihai Yang, Devon W. Meek, and Robert Glaser Spectroscopic and reactivity studies of diastereomeric iridium(III) hydride complexes of the chelating tritertiary phosphine ligand Cytpt	2424
Ting-Hua Tang, Dennis M. Whitfield, Stephen P. Douglas, Jiri J. Krepinsky, and Imre G. Csizmadia Differential reactivity of carbohydrate hydroxyls in glycosylations. I. Intramolecular interaction of the 5'-hydroxyl group with the heteroaromatic base in a model compound of 2'-deoxycytidine	2434
Jack Andrew Bikker and Donald Fredric Weaver Theoretical studies applicable to the design of novel anticonvulsants: an AM1 molecular orbital structure–activity study of dihydropyridine calcium channel antagonists	2449
Parimal Paul, Ramprasad Das, Kamalaksha Nag, Eric J. Gabe, and Jean-Pierre Charland Cyano-bridged heterodinuclear complexes of nickel(II) and palladium(II). A disordered structure for the linkage isomer $[\text{LPd-CN-NiL}](\text{ClO}_4)$	2461
Carl Anderson and Andrew K. Galwey A kinetic study of the thermal dehydration of calcium sulphite hemihydrate	2468
Fernande D. Rochon, Radia Boughzala, and Robert Melanson Study of the aqueous reactions of $\text{K}[\text{Pt}(\text{DMSO})\text{Cl}_3]$ with nitrile ligands and crystal structures of $\text{Cl}(\text{DMSO})\text{Pt}(\mu\text{-C}_5\text{H}_8\text{NO})_2\text{Pt}(\text{DMSO})\text{Cl}$ and $\text{Cl}(\text{DMSO})\text{Pt}(\mu\text{-C}_5\text{H}_8\text{NO})_2\text{Pt}(\text{DMSO})\text{Cl}$	2476
D. G. Miller and D. D. M. Wayner Electrode-mediated Wacker oxidation of cyclic and internal olefins	2485
Peter Yates and Magdy Kaldas Rearrangements in the acid-catalyzed formation of lactones from 2-hydroxynorbornane-2-acetic acid derivatives and related compounds	2491
Marta I. Litter and Miguel A. Blesa Photodissolution of iron oxides. IV. A comparative study on the photodissolution of hematite, magnetite, and maghemite in EDTA media	2502
Notice to authors / Note aux auteurs	i
Author index / Index des auteurs	AI-1

OCTOBER/OCTOBRE

ARTICLES

D. A. Ramsay 1992 CIC Medal Award Address: 50 years a spectroscopist — some personal reminiscences	2511
Sharifa S. Alkaabi and Ahmad S. Shawali Kinetics and mechanism of aminolysis of (Z)-4-arylidene-2-phenyl-5(4H)oxazolones	2515
Jean Atchekzaï, Bernard Bonnetot, Henri Mongeot, Sami Boufi, and Bernard Frange The reaction of boron trichloride – tertiary amine adducts with pseudohalide salts under phase transfer catalysis conditions	2520
Romano Andrade, William A. Ayer, and Paul P. Mebe The metabolites of <i>Trichoderma longibrachiatum</i> . Part 1. Isolation of the metabolites and the structure of trichodimerol	2526
Kathleen M. Brière and Christian Detellier Solvent effects in the metal interchange of crown ether – alkali metal cation complexes. Transition from an associative exchange in nitromethane to a dissociative exchange in acetonitrile studied by ^{23}Na nuclear magnetic resonance	2536
Chet R. Jablonski and Zhongxin Zhou Synthesis, multinuclear NMR, and solution conformation of $(\eta^5\text{-indenyl})\text{CoIr}_2\text{L}$ complexes ($\text{L} = \text{CO}$, P-donor)	2544
Agnes M. Modro and Tomasz A. Modro 2-Chloro-2,4-dioxo-3-methyl-1,3,2-thiazaphospholidine. Comments on its phosphorylating properties	2552
Ted Schaefer and Rudy Sebastian The negative $^7J(\text{CHO}, \text{CH}_3)$ in 4-methylbenzaldehyde. Ionicity of the carbonyl bond	2555

J. F. Anacleto, R. K. Boyd, S. Pleasance, M. A. Quilliam, J. B. Howard, A. L. Laffeur, and Y. Makarovsky Analysis of minor constituents in fullerene soots by LC-MS using a heated pneumatic nebulizer interface with atmospheric pressure chemical ionization	2558
Meguru Nagamori Second nearest-neighbor interactions in ternary regular solutions	2569
Osvald Knop, S. C. Choi, and David C. Hamilton The <i>trans</i> effect: methodological musings	2574
Tristram Chivers, Robert W. Hilts, Ian H. Krouse, A. Wallace Cordes, Randal Halford, and Syrona R. Scott Preparation and ^{31}P NMR characterization of N-bonded complexes of platinum(II) with a phosphadithiazine: X-ray structure of <i>trans</i> - $\text{PtCl}_2(\text{PEt}_3)(\eta^1\text{-N-Ph}_2\text{PS}_2\text{N}_3)$	2602
Ho Huat Lee, Ligaya N. Congson, Dennis M. Whitfield, Lajos R. Radics, and Jiri J. Krepinsky Syntheses of model oligosaccharides of biological significance. XII. Synthesis, NMR, and conformational analysis of trideuteriomethyl 4- <i>O</i> -(β -D-mannopyranosyl)-2-acetamido-2-deoxy- β -D-glucopyranoside: the use of DEPT ^1H to ^{13}C transfer for T_1 measurements and NOE assignments of tightly coupled ^1H nuclei	2607
Marek Majewski and Guo-Zhu Zheng Stereoselective deprotonation of tropinone and reactions of tropinone lithium enolate	2618
Dale E. Ward and Yuanzhu Gai Lewis acid mediated Diels-Alder reactions of 2 <i>H</i> -thiopyrans	2627
Stefan Wodzinski and John W. Bunting The acidities of 4-arylsulfonylmethylpyridines and <i>N</i> -methyl and <i>N</i> -benzyl 4-arylsulfonylmethylpyridinium cations in aqueous solution	2635
Paul Wiseman, Murray Heggie, and Ramamurthy Palepu Viscosities and thermodynamics of viscous flow of binary liquid mixtures of 2-(2-butoxyethoxy)ethanol with aniline and <i>N</i> -alkyl anilines	2645
S. Désilets and M. St-Jacques The anomeric effect in thio derivatives of benzocycloheptene	2650
James V. Davies, Frankie W. Lau, Loanne T. N. Le, John T. W. Lai, and Yoshikata Koga Thermal expansivities of aqueous solutions of 2-butoxyethanol in the water-rich region: transition of mixing scheme	2659
Wayne B. Severn and James C. Richards The acidic specific capsular polysaccharide of <i>Rhodococcus equi</i> serotype 3. Structural elucidation and stereochemical analysis of the lactate ether and pyruvate acetal substituents	2664
Rosa Cattana, Juana J. Silber, and Jorge Anunziata Dielectric enrichment in binary solvent mixtures. The intramolecular hydrogen bond in <i>N</i> -alkyl-substituted <i>o</i> -nitroanilines. Substituent effects	2677
Y. C. Toong, S. P. Tai, M. C. Pun, Rosemary C. Hynes, L. E. Khoo, and F. E. Smith The synthesis and structural characterization of a series of triphenyltin(IV) esters of <i>N</i> -arylidene- ω -amino acids	2683
Gerald Arthur Poulton, Gordon William Bushnell, and Yun-Long Li Lambertellin, a metabolite of <i>Ciboria gordonii</i> Funk	2688
COMMUNICATION	
B. J. Balcom, T. A. Carpenter, and L. D. Hall Spatial and temporal visualization of a pH-dependent complexation equilibrium by nuclear magnetic resonance imaging	2693
Notice to authors / Note aux auteurs	i
Author index / Index des auteurs	AI-1

NOVEMBER/NOVEMBRE

ARTICLES

Peter J. Gardner and Steve R. Preston The thermodynamics of the vaporization of liquid indium(I) iodide by modified entrainment	2699
G. M. Abou-Elenien, N. A. Ismail, M. M. Hassanin, and A. A. Fahmy Electrochemical studies on arylhydrazonomesoxalonitriles in nonaqueous media	2704
Liqin Chen, Laurence K. Thompson, and John N. Bridson Coordination chemistry of thioether-pyridazine macrocycles II. Synthesis, structural and spectroscopic studies of dinuclear copper(II) and polynuclear copper(I) and silver(I) complexes of a tetrathiapyridazinophane macrocyclic ligand	2709
P. Mighels and Th. Zeegers-Huyskens FT-infrared study of the interaction between all- <i>trans</i> retinylidene isopropylamine and model proton donors	2717
Alex Durant and Claude Hootelé Sedum alkaloids XII. Synthesis of the new piperidine alkaloids homosedinone and dihomosedinone	2722
T. H. Chan and C. J. Li A concise synthesis of (+)-muscarine	2726
William J. Leigh, Donald W. Hughes, and D. Scott Mitchell Competitive Diels-Alder and ene addition of <i>N</i> -arylmaleimides to 7-dehydrocholesteryl acetate	2730
François Quirion, Daniel Lambert, and Gérard Perron The HLM method: a simple way to get the solid-liquid phase diagrams and enthalpies of transition of pure components and mixtures	2745
P. Turcotte, S. Alex, and D. Vocelle Studies of the role of water on some imine-acid complexes by means of Raman spectroscopy	2751
Sidima T. Kabanyane and David I. MaGee An efficient and general synthesis of alkyl alkynyl sulfoxides	2758

Norberto Farfán, Rosa L. Santillan, Dolores Castillo, Reyna Cruz, Pedro Joseph-Nathan, and Jean-Claude Daran Fused heterocycles derived from pseudoephedrine and ephedrine	2764
Santokh S. Tandon, Laurence K. Thompson, John N. Bridson, and John C. Dewan Dinuclear cobalt(II) complexes of a polyhydroimidazole ligand. Dinuclear (2:1) non-metallocyclic derivatives and dinuclear (1:1) metallocyclic complexes with a large, unoccupied central cavity	2771
Pierre D. Harvey and Benoît Daoust Nature and characterization of the singlet and triplet excited states of the dibenzylideneacetone and di-3-(<i>N</i> -ethylcarbazoylidene)acetone bridging ligands	2777
Robert I. Haines and Sandra J. Northcott Kinetics and mechanism of oxidation of nickel(II) tetraazamacrocycles by the peroxydisulphate anion in aqueous and binary aqueous mixtures	2785
Michel Zoghbi and John Warkentin Azetinone formation is not competitive with intermolecular reactions of a β -lactam-4-ylidene	2792
Nick H. Werstiuk, Jiangong Ma, John B. Macaulay, and Alex G. Fallis Computational and ultraviolet photoelectron spectroscopic studies of 5-substituted cyclopentadienes. Evidence that $n-\pi$ orbital mixing in the HOMO is not the source of the <i>syn</i> π -facial selectivity in Diels–Alder reactions	2798
Wolfgang Kliegel, Gottfried Lubkowitz, Steven J. Rettig, and James Trotter Structural studies of organoboron compounds. LVI. 1-Benzyl-7-methyl-3,5-diphenyl-2,4,6-trioxa-1-azonia-3-bora-5-boratabicyclo[3.3.0]octane and 1,4,6,9-tetramethyl-2,7-diphenyl-3,8,11,12-tetraoxa-1,6-diazonia-2,7-diboratracyclo[5.3.1.1 ^{2,6}]dodecane	2809
Keisuke Makino, Akifumi Hagi, Hiroshi Ide, Akira Murakami, and Masatoshi Nishi Mechanistic studies on the formation of aminoxyl radicals from 5,5-dimethyl-1-pyrroline- <i>N</i> -oxide in Fenton systems. Characterization of key precursors giving rise to background ESR signals	2818
Nelly Plé, Alain Turck et Guy Queguiner Additions covalentes de nucléophiles sur les pyrido-as-triazines	2828
Jean-Pierre Fayet, Danièle Mermillod-Blardet, Christine Tachon, Guita Etemad-Moghadam, and Max Koenig Isomerism in the diphosphirane series	2834
Notice to authors / Note aux auteurs	I
Author index / Index des auteurs	AI-1

DECEMBER/DÉCEMBRE

ARTICLES

Michael D. Fryzuk The 1992 Alcan Award Lecture. Excursions around the periodic table: ligand design in inorganic chemistry	2839
Jacques Poitras and André L. Beauchamp Preparation and structure of chloro-copper(II) complexes of 7-azaindole	2846
Naser Foroughifar, Kenneth T. Leffek, and Yong Gu Lee Basicity of substituted 2-pyridyl-1,1,3,3-tetramethylguanidines and aminopyridines in acetonitrile and water solvents	2856
Roque Riggio, Hector E. Martinez, and Norma Z. de Salas Excess properties for acetylacetone + pentanols systems at 298.15 K	2859
Miguel Angel Huerta-Diaz and Silvio Rodriguez Solubility measurements and determination of Setschenow constants for the pesticide carbaryl in seawater and other electrolyte solutions	2864
U. S. Rai and Santhi George A physicochemical study on organic eutectics and addition compound; benzidine–pyrogallol system	2869
Janusz Stangret and Rodrigue Savoie Vibrational spectroscopic study of the interaction of metal ions with diethyl phosphate, a model for biological systems	2875
Kim M. Baines, Kevin A. Mueller, and Tsun K. Sham Tetrakis(trimethylgermyl)silane and tris(trimethylgermyl)silyllithium	2884
J. K. Kauppinen, D. J. Moffatt, and H. H. Mantsch Nonlinearity of the maximum entropy method in resolution enhancement	2887
Fulvio Corradini, Luigi Marcheselli, Lorenzo Tassi, and Giuseppe Tosi Static dielectric constants of the <i>N,N</i> -dimethylformamide/2-methoxyethanol solvent system at various temperatures	2895
A. Natansohn, C. G. Bazuin, and X. Tong CP-MAS ¹³ C NMR investigation of phase structure in mixtures of poly(ethyl acrylate) ionomers with sodium palmitate	2900
Bhamidi Srinivas and Panthappally S. Zacharias Influence of metal–metal interaction on magnetic and redox properties in different series of heterodinuclear copper(II), nickel(II), and zinc(II) complexes	2906
Nathalie Dufour, Anne-Marie Lebus, Marie-Claude Corbeil, André L. Beauchamp, Pascal Dufour, Yves Dartiguenave, and Michèle Dartiguenave Complexation of 7-azaindole by the methylmercury(II) cation	2914
Allan W. Rey, Walter A. Szarek, and David B. MacLean Total synthesis and establishment of the absolute stereochemistry of (+)-mostueine. Addition of chiral nucleophiles to 3,4-dihydro-2-methyl-9-(<i>p</i> -toluenesulfonyl)- β -carbolinium iodide	2922
Christine Rogers and Brian A. Keay The effect of Lewis acids on the intramolecular Diels–Alder reaction of the furan diene	2929
Richard Menini, Piotr K. Wrona, Hugues Ménard, and Olivier Vittori The effect of tensioactive agents on the kinetics of hydrogen evolution at a nickel electrode	2948
H.-K. Shin, M. J. Hampden-Smith, E. N. Duesler, and T. T. Kodas The chemistry of copper(I) β -diketonate compounds. Part V. Syntheses and characterization of (β -diketonate)CuL _n species where L = PBu ₃ , PPh ₃ , and PCy ₃ ; <i>n</i> = 1 and 2; crystal and molecular structures of (acac)Cu(PCy ₃), (tfac)Cu(PCy ₃), (hfac)Cu(PCy ₃), and (hfac)Cu(PCy ₃) ₂	2954

Michel Zoghbi and John Warkentin Spiro fused β -lactam cyclopropenes	2967
Jack Passmore, Xiaoping Sun, and Simon Parsons Cycloaddition reactions of SNSAsF_6 with aryl nitriles and diphenylacetylene; the preparation and characterization of aryl 1,3,2,4- and 1,2,3,5-dithiadiazole radicals	2972
J. F. Harrod, Ying Mu, and E. Samuel Organometallic intermediates in the group 4 metallocene-catalyzed dehydrocoupling of organosilanes. 2. Variations in the intermediates of dimethyltitanocene reactions with several silanes	2980
Notice to authors / Note aux auteurs	i
Author index for volume 70 / Index des auteurs pour volume 70	AI-1
Subject index for volume 70 / Index des mati�res pour volume 70	SI-1
Contents for volume 70 / Sommaire pour volume 70	C-1